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HOW TEACHERS MAY USE  
FARMERS' BULLETIN 1125: FORAGE  
FOR THE COTTON BELT

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**T**HE TEACHING OF AGRICULTURE in any community should have a vital connection with the problems of the farms of that community. Pupils are interested in those things about which they have some knowledge. The type of agriculture practiced in the community can be used to the best advantage in teaching. Therefore the teacher should organize the available subject matter which is of community interest and present it in such a manner that it will touch closely the life and experience of the pupils. In order to do this the teacher should be familiar with the agricultural interests of the community.

For the purpose of assisting teachers in work of this kind circulars suggesting how teachers may profitably use information contained in certain publications of the United States Department of Agriculture are prepared from time to time. It is hoped that these circulars will serve to improve methods of instruction in agriculture and related subjects in the schools and that a closer relation will be established between the work of the school and the interests of the community.

While these circulars are prepared more especially for teachers in elementary schools, they may serve as a basis for instruction in agriculture in secondary schools in urban as well as in rural schools.

Many valuable topics in connection with the production of forage crops adapted to southern conditions are contained in this circular. The arrangement of these topics should be helpful to teachers.

## FORAGE FOR THE COTTON BELT.

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*Range of use.*—This bulletin is well suited for use in both rural and urban schools in the South. It is also valuable for use in district agricultural schools and in those city high schools that give agricultural instruction. Leaders in farm institute work and directors of agricultural club activities throughout the South will find this bulletin of very material assistance.

*Relation to course of study.*—This bulletin may be adapted to a general course in elementary agriculture by selecting those crops for feeding purposes that are common to the section in which the school is located. It may be used in a more detailed study of agronomy by emphasizing and enlarging the treatment of the various topics.

*Illustrative material.*—Samples of such forage plants treated in this bulletin as are common in the school neighborhood should be collected, pressed, and kept in a permanent school herbarium for future illustrative study. Samples of those crops contained in the bulletin that are not common to the school neighborhood might be obtained by the exchange of samples with schools in other sections. Specimens of seeds, fertilizer materials mentioned, etc., should be collected and studied in connection with each lesson's text. Pictures of plants, of fields under cultivation, and of methods of propagation should be obtained. Most of the State agricultural colleges can supply illustrative material that will be found of great advantage to the teacher.

*Suggestions to the teacher.*—It is not expected that the teacher will endeavor to teach every crop found in this bulletin. Selection should be made and those crops presented for class discussion that may be found of interest in the home section.

### *Topics for study.*—

#### I. Soils. Pages 3-5.

##### (1) The Piedmont Plateau.

Page 4.

(a) Extent.

(b) Nature of country.

(c) Types of soil.

(d) Management of soils.

##### (2) River valleys. Page 4.

(a) Extent.

(b) Nature of soils:  
Alluvial.

#### I. Soils—Continued.

##### (3) Appalachian Mountains and plateaus. Page

4.

(a) Location of area.

(b) Types of soil.

##### (4) Houston series. Page 4.

(a) Location of area.

(b) Plant properties in soils.

(c) Handling the soils.

*Topics for study—Continued.*

## I. Soils—Continued.

## (5) Coastal plains. Page 5.

- (a) Extent.
- (b) Original timber growth.
- (c) Types of soils.
- (d) Handling the soils.

## II. Hay and pasture grasses. Pages 5-24.

## (1) Bermuda grass. Page 5.

- (a) A good pasture grass.
- (b) Conditions of growth.
- (c) Propagation.
- (d) Soil preparation.
- (e) Cultivation.
- (f) Objections to Bermuda grass.
- (g) How to destroy it.

## (2) Carpet grass. Page 8.

- (a) Advantage in light soils.
- (b) Propagation.

## (3) Johnson grass. Page 9.

- (a) Conditions for best growth and use.
- (b) Time for harvesting.
- (c) Grazing.
- (d) How to destroy it when it proves a pest.

## (4) Sudan grass. Page 10.

- (a) Principally a hay and soiling crop.
- (b) Methods of seedling.
- (c) Withstands severe drought.

## (5) Dallis grass. Page 11.

- (a) Imported from Argentina.
- (b) Type of soil needed for best growth.
- (c) Methods of propagation.
- (d) Value of hay.

## II. Hay and pasture grasses—Con.

## (6) Vasey grass. Page 12.

- (a) Original home.
- (b) Type of soil for best growth.
- (c) Propagated by seeds only.
- (d) Value as hay.

## (7) Para grass. Page 12.

- (a) Common in Florida and southern Texas.
- (b) Method of propagation.
- (c) Value of hay and grazing.

## (8) Carib grass. Page 13.

- (a) Compare to Para grass.
- (b) Area where grown.

## (9) Guinea grass. Page 13.

- (a) Native of Africa.
- (b) Type of soil needed for growth.
- (c) When it should be harvested.

## (10) Rhodes grass. Page 14.

- (a) Characteristics of grass.
- (b) Restricted growth area.
- (c) Methods of seedling.
- (d) Grazing period.
- (e) Harvesting.

## (11) Natal grass. Page 16.

- (a) Characteristics of grass.
- (b) Location of best growth.
- (c) Good for sandy and dry soils.
- (d) Several cuttings per season.

## (12) Crab grass. Page 17.

- (a) Volunteer hay crop.
- (b) Growth period.
- (c) Harvesting time.



*Topics for study—Continued.*

II. Hay and pasture grasses—Con.

- (13) Kikuyu grass. Page 17.
  - (a) An African grass.
  - (b) Valuable for horses and cattle.
  - (c) Propagated by cuttings, not seed.
- (14) Maiden cane. Page 18.
  - (a) Location of growth and varied names.
  - (b) Time for cutting.
  - (c) Grazing value.
- (15) Orchard grass. Page 19.
  - (a) Light hay yield.
  - (b) Excellent pasturage.
  - (c) Type of soils best suited to growth.
- (16) Rye grasses. Page 19.
  - (a) Two species—Italian, perennial.
  - (b) Time for sowing.
  - (c) Where best growth occurs.
  - (d) Value as hay or pasturage.
- (17) Redtop. Page 20.
  - (a) A wet-land crop.
  - (b) Time of seeding.
  - (c) Value as hay.
- (18) Kentucky bluegrass. Page 20.
  - (a) Restricted area of growth.
  - (b) Excellent for pasturage.
  - (c) Lime soil needed for growth.
  - (d) Time of growth.
- (19) Rescue grass, Schrader's grass. Page 20.
  - (a) Winter growth.
  - (b) Restricted use.
- (20) Timothy. Page 21.
  - (a) Only useful in northern section.
  - (b) Use with alfalfa.

II. Hay and pasture grasses—Con.

- (21) Millets. Page 21.
  - (a) Foxtail group.
  - (b) Characteristics of growth.
  - (c) Sowing followed by rolling.
  - (d) Time and manner of harvesting.
  - (e) Value of crop.
- (22) Colorado grass. Page 23.
  - (a) Late hay crop.
  - (b) Kind of soil needed for growth.
  - (c) Time for sowing.
- (23) Cereal grasses. Page 23.
  - (a) Kinds in use.
  - (b) Time for sowing.
  - (c) Grazing the crops.
  - (d) Value as hay.

III. Coarse fodder grasses. Pages 23-28.

- (1) Sorghum. Page 24.
  - (a) Use—soiling, silage, hay.
  - (b) Varieties in use.
  - (c) How planted.
  - (d) Harvesting.
  - (e) Curing.
  - (f) Use as hay and for pasturage.
- (2) Teosinte. Page 25.
  - (a) Conditions of growth.
  - (b) Use for soiling purposes.
- (3) Japanese sugar cane. Page 26.
  - (a) Method of cultivation.
  - (b) Type of yields.
  - (c) Use for forage.
- (4) Napier grass. Page 27.
  - (a) Nature of the plant.
  - (b) Time for planting.
  - (c) Use for soiling.
  - (d) Harvesting for silo.

*Topics for study—Continued.*

## IV. Legumes. Pages 28-47.

- (1) Alfalfa. Page 29.
  - (a) Kind of soil needed.
  - (b) When it should be seeded.
  - (c) Soil preparation.
  - (d) Inoculation of soil.
  - (e) Cutting alfalfa.
  - (f) Use for grazing purposes.
- (2) Melilotus. Page 31.
  - (a) Region of growth.
  - (b) When plants should be cut.
  - (c) Time for sowing.
- (3) Annual yellow melilotus. Page 32.
  - (a) Related to white sweet clover.
  - (b) Region of growth.
  - (c) Value as hay.
- (4) Red clover. Page 32.
  - (a) Type of soil needed.
  - (b) Preparation of soil.
  - (c) Harvesting the crop.
- (5) Alsike clover. Page 32.
  - (a) Best soils for growth.
  - (b) Yield.
  - (c) Grazing value.
- (6) Crimson clover. Page 33.
  - (a) Favorable localities for growth.
  - (b) Inoculation of soil.
  - (c) Value for hay and pasturage.
- (7) Lespedeza, or Japan clover. Page 34.
  - (a) Best soils for growth.
  - (b) Rotation with oats.
  - (c) Value as hay.
  - (d) Value as a legume for the South.

## IV. Legumes—Continued.

- (8) Black medic. Page 34.
  - (a) Winter growing annual.
  - (b) Use in permanent pasture.
  - (c) Sowing time.
- (9) Cowpeas. Page 35.
  - (a) Varieties.
  - (b) Methods of planting.
  - (c) Harvesting for hay.
  - (d) Curing in stacks.
  - (e) Use as feed.
- (10) Soy beans. Page 37.
  - (a) Varieties.
  - (b) Kind of soil for best growth.
  - (c) Time and manner of planting.
  - (d) Yield.
  - (e) Feeding value.
  - (f) When harvested.
  - (g) Thrashing the beans.
- (11) Velvet beans. Page 38.
  - (a) History of velvet beans.
  - (b) Varieties.
  - (c) Areas where grown.
  - (d) Characteristics of plant.
  - (e) Planting velvet beans.
  - (f) Harvesting.
  - (g) Use in silage.
  - (h) Use for grazing of hogs and cattle.
- (12) Vetches. Page 42.
  - (a) Varieties in general use.
  - (b) Type of soil for best growth.
  - (c) Time for sowing.
  - (d) Grazing use.
- (13) Florida beggarweed. Page 44.
  - (a) Area of growth.
  - (b) Best methods of harvesting.
  - (c) Reseeding the land.



*Topics for study—Continued.*

IV. Legumes—Continued.

- (14) Kadzu. Page 45.
  - (a) Type of soil needed.
  - (b) Areas of growth.
  - (c) Methods of propagation.
  - (d) Use for grazing.
- (15) Peanuts. Page 47.
  - (a) Climatic conditions for growth.
  - (b) Harvested for seed.
  - (c) Harvested for hay.
  - (d) Value to hogs.

V. Miscellaneous forage crops. Pages 47-50.

- (1) Mexican clover. Page 48.
  - (a) Regions of best growth.
  - (b) Use for grazing.
  - (c) Use as cover crop.
- (2) Chufas. Page 49.
  - (a) Adapted to sandy soils.
  - (b) Useful for winter grazing.
  - (c) Time for planting.
- (3) Rape. Page 49.
  - (a) Cool weather crop.
  - (b) Value for pasturing.
  - (c) Time for sowing.
  - (d) Use for grazing.
- (4) Sweet potatoes. Page 49.
  - (a) Adapted for sandy soils.
  - (b) Time for planting.
  - (c) Use for grazing.
- (5) Jerusalem artichokes. Page 50.
  - (a) Type of soil needed.
  - (b) Winter feed.
  - (c) Use for fattening stock.
- (6) Cassava. Page 50.
  - (a) Restricted area of growth.
  - (b) Type of soil needed.
  - (c) Preserving the roots.

VI. Hay crops. Pages 51-55.

- (1) Preparation for permanent meadows. Page 51.
  - (a) Rich soil needed.
  - (b) Surface preparation.
  - (c) Use of manure to cover crops.
  - (d) Use of fertilizers.
- (2) Plants for permanent meadows. Page 52.
  - (a) Varieties according to location.
  - (b) Use of Johnson grass.
  - (d) Use of Bermuda grass.
- (3) Temporary meadows. Page 54.
  - (a) Short-season annuals grown.
  - (b) Varieties to be used.
  - (c) Winter-growing annuals.
- (4) Making hay. Page 55.
  - (a) Time for cutting.
  - (b) Making and curing.
  - (c) Storing.

VII. Pastures. Pages 56-58.

- (1) Varieties of plants to use. Page 56.
  - (a) Bermuda and carpet grass.
  - (b) Types of soil available.
- (2) Times for grazing. Page 56.
  - (a) Duration of eight or nine months.
- (3) Presence of legumes. Page 57.
  - (a) Varieties adapted to differing soils.
- (4) Wild lands. Page 57.
  - (a) Need of plowing.
  - (b) Seeding wild lands.
  - (c) Delay pasturing.

*Topics for study—Continued.*

## VII. Pastures—Continued.

(5) Pasture weeds. Page 57.

(a) Bitterweed.

(b) Garlic or wild  
onion.(6) Temporary pasture.  
Page 57.(a) Need less atten-  
tion.(b) Crops for tempo-  
rary pasture.

## VIII. Silage crops. Pages 58, 59.

(1) Crops used in silo.

(2) Time to cut crops for  
silo.

## IX. Soiling crops. Pages 59, 60.

(1) Use to dairymen.

(2) Type of soil needed.

(3) Crops used for soiling.

(4) Successive plantings.

(5) Value as fresh feed.

*Practical exercises.*—1. Visit farms where some of the crops treated in this bulletin are cultivated and study the methods employed.

2. Where meadows are reseeded, make a study of the way in which this work is done. Compare the various methods of reseeding and report upon observations made.

3. Group the plants together that have the same general characteristics of growth. Study their life habits.

4. Study methods of inoculating soil where alfalfa is grown.

5. Make a fertilizer table for the meadow and pasture crops grown about the school. Compute the average amount of fertilizer per acre used by the farmers in the school neighborhood.

6. Study the roots of the legume plants. Locate the nodules. Estimate the value of the crop for hay and for green manuring.

7. Study the best methods of harvesting the legumes for hay. Report on methods used in the neighborhood for curing legumes.

8. Make a survey of the permanent and temporary meadows and pastures in the community, suggesting any means of bettering them.

9. Visit a silo and report upon crops used, manner of preparing them for the silo, and method of filling the silo.

10. Note the advantages and disadvantages obtained from soiling crops in your community.

*Correlations.*—History: The history of the development of some of the crops treated in this bulletin may be studied. The local agricultural history of the community might be studied in its relation to the development of forage crops.

Language: Letters ordering seed from various seed-supply houses may be written and their form of expression criticized. Reports of community crops should be written out and presented in class for discussion. Letters to other schools in other localities offering to exchange illustrative material would give training in the use of English expression.

Arithmetic: Computation of acreage yield, fertilizer distribution, labor expenses, and market returns will give training in the simpler forms of mathematics and bookkeeping.

Geography: A study should be made of the geographic location, physical features, and geologic structure of the areas where crops named in this bulletin are grown.



